

CLAIMS

What I claim is:

- 1 1. A communication system comprising:
2 a mobile device including a Subscriber Identity Module (SIM) and an
3 International Mobile Subscriber Identity (IMSI);
4 a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number
5 for use in a first public mobile network;
6 a second MSISDN number for use in a second public mobile network; and
7 at least one signal gateway coupled among components of the first public mobile
8 network and the second public mobile network, wherein the signal gateway couples calls
9 between the SIM and the first public mobile network using the first MSISDN, wherein
10 the signal gateway couples calls between the SIM and the second public mobile network
11 using the second MSISDN.
- 1 2. The system of claim 1, wherein at least one of the first MSISDN number and the
2 second MSISDN number is permanently assigned to the SIM.
- 1 3. The system of claim 1, wherein at least one of the first MSISDN number and the
2 second MSISDN number is temporarily assigned to the SIM.
- 1 4. The system of claim 1, wherein the first MSISDN number is a telephone number
2 of the mobile device that is local to the first public mobile network.
- 1 5. The system of claim 1, wherein the second MSISDN number is a telephone
2 number of the mobile device that is local to the second public mobile network.
- 1 6. The system of claim 1, wherein components of the signal gateway map the first
2 MSISDN number to the second MSISDN number.

1 7. The system of claim 1, wherein at least one component of the signal gateway
2 provides at least one of a home location register (HLR), a visited location register (VLR),
3 a gateway mobile switching center (GMSC), a visited mobile switching center (VMSC),
4 a short message service center (SMSC), and a service node in at least one of the first
5 public mobile network and the second public mobile network.

1 8. The system of claim 1, wherein the signal gateway is coupled to at least one first
2 mobile switching center of the first public mobile network and is coupled to provide
3 signal loop-back at the first mobile switching center, wherein the signal gateway couples
4 to at least one component of the second public mobile network via the first mobile
5 switching center.

1 9. The system of claim 1, wherein the signal gateway is coupled to at least one
2 second mobile switching center of the second public mobile network and is coupled to
3 provide signal loop-back at the second mobile switching center, wherein the signal
4 gateway couples to at least one component of the first public mobile network via the
5 second mobile switching center.

1 10. The system of claim 1, wherein the first public mobile network includes first and
2 second mobile switching centers, wherein the at least one signal gateway includes first
3 and second signal gateways coupled among the first and second mobile switching centers
4 via couplings that support Signaling System Number 7 (SS7) protocols.

1 11. The system of claim 10, wherein the first signal gateway couples to the first
2 mobile switching center using a common signal point code, the first signal gateway
3 couples to the second mobile switching center using a first signal point code,
4 the second signal gateway couples to the first mobile switching center using a second
5 signal point code, and the second signal gateway couples to the second mobile switching
6 center using the common signal point code.

1 12. The system of claim 10, wherein the first signal gateway couples to the first
2 mobile switching center using a first signal point code and the second signal gateway
3 couples to the second mobile switching center using a second signal point code.

1 13. The system of claim 1, wherein the second public mobile network includes third
2 and fourth mobile switching centers, wherein the at least one signal gateway includes
3 third and fourth signal gateways coupled among the third and fourth mobile switching
4 centers via couplings that support Signaling System Number 7 (SS7) protocols.

1 14. The system of claim 13, wherein the third signal gateway couples to the third
2 mobile switching center using a common signal point code, the third signal gateway
3 couples to the fourth mobile switching center using a first signal point code,
4 the fourth signal gateway couples to the third mobile switching center using a second
5 signal point code, and the fourth signal gateway couples to the fourth mobile switching
6 center using the common signal point code.

1 15. The system of claim 13, wherein the third signal gateway couples to the third
2 mobile switching center using a first signal point code and the fourth signal gateway
3 couples to the fourth mobile switching center using a second signal point code.

1 16. The system of claim 1, wherein the mobile device includes at least one of cellular
2 telephones, personal computers, portable computing devices, portable telephones,
3 portable communication devices, subscriber devices or units, and personal digital
4 assistants.

1 17. A communication system comprising:
2 , means for wireless communications;
3 means for associating a single subscriber identity with the means for wireless
4 communications; and
5 means for coupling calls among the means for wireless communications and a
6 first public mobile network using a first telephone number and for coupling calls among

7 the means for wireless communications and a second public network using a second
8 telephone number.

1 18. A system comprising a wireless client device that includes one Subscriber Identity
2 Module (SIM) having one assigned International Mobile Subscriber Identity (IMSI), and
3 at least one signal gateway that supports use of two or more Mobile Subscriber Integrated
4 Service Digital Network (MSISDN) numbers by the client device, wherein the signal
5 gateway couples among at least one of first and second mobile switching centers, wherein
6 the signal gateway couples calls between the client device and the first mobile switching
7 center using a first MSISDN and couples calls between the client device and a second
8 mobile switching center using a second MSISDN.

1 19. A device comprising at least one signal gateway coupled among components of a
2 first public mobile network and a second public mobile network, wherein the signal
3 gateway couples calls between a mobile device and the first public mobile network using
4 a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number,
5 wherein the signal gateway couples calls between the SIM and the second public mobile
6 network using a second MSISDN, wherein the mobile device includes a single Subscriber
7 Identity Module (SIM) and International Mobile Subscriber Identity (IMSI).

1 20. The device of claim 19, wherein the first MSISDN number is a telephone number
2 of the mobile device that is local to the first public mobile network and the second
3 MSISDN number is a telephone number of the mobile device that is local to the second
4 public mobile network.

1 21. The device of claim 19, wherein the signal gateway maps the first MSISDN
2 number to the second MSISDN number.

1 22. The device of claim 19, wherein the signal gateway provides at least one of a
2 home location register (HLR), a visited location register (VLR), a gateway mobile
3 switching center (GMSC), a visited mobile switching center (VMSC), a short message

4 service center (SMSC), and a service node in at least one of the first and second public
5 mobile networks.

1 23. The device of claim 19, wherein the signal gateway is coupled to at least one first
2 mobile switching center of the first public mobile network and is coupled to provide
3 signal loop-back at the first mobile switching center, wherein the signal gateway couples
4 to at least one component of the second public mobile network via the first mobile
5 switching center.

1 24. The device of claim 19, wherein the signal gateway is coupled to at least one
2 second mobile switching center of the second public mobile network and is coupled to
3 provide signal loop-back at the second mobile switching center, wherein the signal
4 gateway couples to at least one component of the first public mobile network via the
5 second mobile switching center.

1 25. The device of claim 19, wherein the first public mobile network includes first and
2 second mobile switching centers, wherein the at least one signal gateway includes first
3 and second signal gateways coupled among the first and second mobile switching centers
4 via couplings that support Signaling System Number 7 (SS7) protocols.

1 26. The device of claim 25, further comprising cross-connections between the first
2 and second signal gateways and the first and second mobile switching centers.

1 27. The device of claim 19, wherein the second public mobile network includes third
2 and fourth mobile switching centers, wherein the at least one signal gateway includes
3 third and fourth signal gateways coupled among the third and fourth mobile switching
4 centers via couplings that support Signaling System Number 7 (SS7) protocols.

1 28. The device of claim 27, further comprising cross-connections between the third
2 and fourth signal gateways and the third and fourth mobile switching centers.

1 29. The device of claim 19, wherein the mobile device includes at least one of cellular
2 telephones, personal computers, portable computing devices, portable telephones,
3 portable communication devices, subscriber devices or units, and personal digital
4 assistants.

1 30. A method for supporting multiple Mobile Subscriber Integrated Service Digital
2 Network (MSISDN) numbers in a mobile device, comprising:
3 connecting calls between the mobile device and a first public mobile network
4 using a first MSISDN that is associated with the first public mobile network, wherein the
5 mobile device includes a Subscriber Identity Module (SIM) with an International Mobile
6 Subscriber Identity (IMSI);
7 mapping the first MSISDN number to a second MSISDN number that is
8 associated with a second public mobile network; and
9 connecting calls between the client device and the second public mobile network
10 using the second MSISDN via a coupling through the first public mobile network.

1 31. The method of claim 30, wherein the IMSI is associated with the first public
2 mobile network.

1 32. The method of claim 30, wherein connecting calls between the mobile device and
2 the first public mobile network comprises coupling calls between the first public mobile
3 network and the SIM via at least one signal gateway, wherein the signal gateway is
4 coupled among components of the first public mobile network and the second public
5 mobile network.

1 33. The method of claim 30, wherein the first MSISDN number is a telephone
2 number of the mobile device that is local to the first public mobile network and the
3 second MSISDN number is a telephone number of the mobile device that is local to the
4 second public mobile network.

1 34. The method of claim 30, wherein components of a signal gateway coupled to at
2 least one of the first and second public mobile networks map the first MSISDN number
3 to the second MSISDN number.

1 35. The method of claim 30, wherein connecting calls between the mobile device and
2 each of the first and second public mobile networks includes coupling the first and
3 second public networks using at least one signal gateway, wherein at least one component
4 of the signal gateway provides at least one of a home location register (HLR), a visited
5 location register (VLR), a gateway mobile switching center (GMSC), a visited mobile
6 switching center (VMSC), a short message service center (SMSC), and a service node in
7 at least one of the first public mobile network and the second public mobile network.

1 36. The method of claim 30, wherein connecting calls between the mobile device and
2 each of the first and second public mobile networks includes coupling at least one signal
3 gateway to at least one first mobile switching center of the first public mobile network to
4 provide signal loop-back at the first mobile switching center, wherein the signal gateway
5 couples to at least one component of the second public mobile network via the first
6 mobile switching center.

1 37. The method of claim 30, wherein connecting calls between the mobile device and
2 each of the first and second public mobile networks includes coupling at least one signal
3 gateway to at least one second mobile switching center of the second public mobile
4 network to provide signal loop-back at the second mobile switching center, wherein the
5 signal gateway couples to at least one component of the first public mobile network via
6 the second mobile switching center.

1 38. The method of claim 30, wherein the mobile device includes at least one of
2 cellular telephones, personal computers, portable computing devices, portable telephones,
3 portable communication devices, subscriber devices or units, and personal digital
4 assistants.

1 39. A computer readable medium including executable instructions which, when
2 executed, provide numerous Mobile Subscriber Integrated Service Digital Network
3 (MSISDN) numbers in a mobile device, by:

4 connecting calls between the mobile device and a first public mobile network
5 using a first MSISDN that is associated with the first public mobile network, wherein the
6 mobile device includes a Subscriber Identity Module (SIM) with an International Mobile
7 Subscriber Identity (IMSI);

8 mapping the first MSISDN number to a second MSISDN number that is
9 associated with a second public mobile network; and

10 connecting calls between the client device and the second public mobile network
11 using the second MSISDN via a coupling through the first public mobile network.